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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/732,774 | 12/09/2003 | Thomas Szolyga | 200312966-1 | 6955 |

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EXAMINER

BORKOWSKI, ROBERT

ART UNIT PAPER NUMBER

2181

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/732,774 | SZOLYGA ET AL. | |
| | Examiner | Art Unit | |
| | Robert Borkowski | 2181 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23, 25-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

Claims 1-23, and 25-27 stand rejected.

Claim 24 has been canceled.

Specification

The examiner maintains the objection because of the following informalities:

It appears to the examiner that the “front panel 302” (paragraph 024 line 5) refers to Fig. 3 element 202. Furthermore, both Fig. 2 and Fig. 3 show the element 202 as the front panel. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3, 7-14, 18-22, 25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bardmesser (U.S. Patent No. 5,986,992) in view of Adelmann (U.S. Patent No. 6,644,556 B2).

As to claims 1, 21, and 22, Bardmesser teaches a mass storage device operable to store data (column 3 lines 19-29, Fig. 3 element 1) and having an overall storage capacity (Abstract, Fig. 1 element 4), the mass storage device comprising a panel (column 2 lines 63-67, Fig. 1 element 4) on which a capacity indicator is positioned, the capacity indicator being operable to display either a used storage capacity (column 4 lines 5-10, Fig. 5 element 41, Fig. 6 element 41, Fig. 7 element 4) or a free storage capacity of the mass storage device (column 4 lines 5-10, Fig. 5 element 42, Fig. 6 element 42, Fig. 7 element 4), or being operable to display both free and used storage capacity of the mass storage device (column 4 lines 5-10, Fig. 5 element 40, Fig. 6 element 40, Fig. 7 element 4).

Bardmesser does not teach a capacity-update component operable to determine the storage capacity of the mass storage device and to provide the determined storage capacity to the capacity indicator to be displayed.

Adelmann teaches a capacity-update component (column 3 lines 9-21, Fig. 2 element 200) operable to determine the storage capacity of the mass storage device (column 4 lines 31-44, Fig. 3 element 304) and to provide the determined storage capacity to the capacity indicator to be displayed (column 4 lines 31-62).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Bardmesser to include wherein a capacity-update component operable to determine the storage capacity of the mass storage device and to provide the determined storage capacity to the capacity indicator to be displayed.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Bardmesser by the teaching of Adelmann because

including a capacity-update component operable to determine the storage capacity of the mass storage device and to provide the determined storage capacity to the capacity indicator to be displayed would determine the amount of storage space that is available in at least one memory module, and updating a nonvolatile display of the storage device so that it conveys the amount of available space (column 1 lines 54-61 of Adelman).

As to claims 2, and 13, Bardmessenger teaches the mass storage device comprises a removable device (Abstract, column 3 lines 1-6, 15-28, Fig. 3 element 1).

As to claims 3, and 14, Bardmessenger teaches the mass storage device comprises a removable hard disk (Abstract, column 3 lines 19-29, Fig. 1 element 1, Fig. 3 element 20).

As to claims 7, and 18, Bardmessenger teaches the mass storage device wherein the capacity indicator comprises a liquid crystal display (column 2 lines 63-67, column 4 line 63 through column 5 line 4, Fig. 1, 2, 5-7, 8, 11-13 element 4).

As to claims 8, and 19, Bardmessenger teaches the mass storage device wherein the panel comprises a front panel of housing containing electronics of the mass storage device (column 3 lines 1-14, Fig. 2).

As to claim 9, Bardmessenger teaches the mass storage device is adapted to receive capacity-update signals (Abstract, column 3 lines 19-22, lines 38-45, Fig. 4 element S4) and wherein the capacity indicator is operable to display the storage capacity or capacity responsive to the capacity-update signals (column 2 lines 13-20, column 3 lines 38-45, Fig. 4 element S5).

As to claim 10, Bardmessenger teaches a computer system, comprising:
computer circuitry for executing programs and storing data (column 3 lines 15-45, Fig. 3 element 20); and

a mass storage device coupled to the computer circuitry (column 3 lines 19-29, column 5 lines 15-22, column 4 lines 43-50, Fig. 3, 9 element 20, Fig. 10 element 60, Fig. 13 element 70) and being operable to store data and having an overall storage capacity, the mass storage device including a panel on which a capacity indicator is positioned, the capacity indicator being operable to display either a used storage capacity or a free storage capacity of the mass storage device, or being operable to display both free and used storage capacities of the mass storage device.

Bardmesser does not teach a capacity-update component operable to determine the storage capacity of the mass storage device and to provide the determined storage capacity to the capacity indicator to be displayed.

Adelmann teaches a capacity-update component (column 3 lines 9-21, Fig. 2 element 200) operable to determine the storage capacity of the mass storage device (column 4 lines 31-44, Fig. 3 element 304) and to provide the determined storage capacity to the capacity indicator to be displayed (column 4 lines 31-62).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Bardmesser to include wherein a capacity-update component operable to determine the storage capacity of the mass storage device and to provide the determined storage capacity to the capacity indicator to be displayed.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Bardmesser by the teaching of Adelmann because including a capacity-update component operable to determine the storage capacity of the mass storage device and to provide the determined storage capacity to the capacity indicator to be displayed would

determine the amount of storage space that is available in at least one memory module, and updating a nonvolatile display of the storage device so that it conveys the amount of available space (column 1 lines 54-61 of Adelman).

As to claim 11, Bardmeyer does not teach wherein the capacity indicator displays the desired storage capacity responsive to the determined storage capacity provided by the capacity-update component.

Adelman teaches wherein the capacity indicator displays the desired storage capacity responsive to the determined storage capacity provided by the capacity-update component (column 4 lines 31-62).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Bardmeyer to include wherein the capacity indicator displays the desired storage capacity responsive to the determined storage capacity provided by the capacity-update component.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Bardmeyer by the teaching of Adelman because including the capacity indicator displays the desired storage capacity responsive to the determined storage capacity provided by the capacity-update component would determine the amount of storage space that is available in at least one memory module, and updating a nonvolatile display of the storage device so that it conveys the amount of available space (column 1 lines 54-61 of Adelman).

As to claim 12, Bardmeyer teaches a computer system comprising:

at least one input device coupled to the computer circuitry (column 2 lines 13-30, column 3 lines 19-29, column 4 lines 43-50, column 5 lines 15-22, Fig. 3 and 9 element 20, Fig. 10 element 60, Fig. 13 element 70); and at least one output device coupled to the computer circuitry (column 2 lines 13-30, column 3 lines 19-29, column 4 lines 43-50, column 5 lines 15-22, Fig. 3 and 9 element 20, Fig. 10 element 60, Fig. 13 element 70).

As to claim 20, Bardmessenger does not teach disposing a capacity-update component in the mass storage device;

determining, with the capacity-update component, a storage capacity of the mass storage device;

providing the determined storage capacity to a capacity indicator of the mass storage device; and

displaying an indication of the determined storage capacity.

Adelmann teaches disposing a capacity-update component in the mass storage device (column 4 lines 31-62);

determining, with the capacity-update component, a storage capacity of the mass storage device (column 4 lines 31-62);

providing the determined storage capacity to a capacity indicator of the mass storage device (column 4 lines 31-62); and

displaying an indication of the determined storage capacity (column 4 lines 31-62).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Bardmessenger to include disposing a capacity-update component in the mass storage device; determining, with the capacity-update component,

a storage capacity of the mass storage device; providing the determined storage capacity to a capacity indicator of the mass storage device; and displaying an indication of the determined storage capacity.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Bardmesser by the teaching of Adelmann because including disposing a capacity-update component in the mass storage device; determining, with the capacity-update component, a storage capacity of the mass storage device; providing the determined storage capacity to a capacity indicator of the mass storage device; and displaying an indication of the determined storage capacity would determine the amount of storage space that is available in at least one memory module, and updating a nonvolatile display of the storage device so that it conveys the amount of available space (column 1 lines 54-61 of Adelmann).

As to claim 25, Bardmesser does not teach wherein determining a storage capacity of the mass storage device comprises periodically determining the capacity.

Adelmann teaches wherein determining a storage capacity of the mass storage device comprises periodically determining the capacity (column 4 lines 31-62).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Bardmesser to include wherein determining a storage capacity of the mass storage device comprises periodically determining the capacity.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Bardmesser by the teaching of Adelmann because including determining a storage capacity of the mass storage device comprises periodically determining the capacity would determine the amount of storage space that is available in at least

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one memory module, and updating a nonvolatile display of the storage device so that it conveys the amount of available space (column 1 lines 54-61 of Adelman).

As to claim 27, Bardmesser does not teach a capacity indicator observable while the mass storage device operates.

Adelman teaches a capacity indicator observable while the mass storage device operates (column 4 lines 62-67).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Bardmesser to include a capacity indicator observable while the mass storage device operates.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Bardmesser by the teaching of Adelman because including a capacity indicator observable while the mass storage device operates would determine the amount of storage space that is available in at least one memory module, and updating a nonvolatile display of the storage device so that it conveys the amount of available space (column 1 lines 54-61 of Adelman).

2. Claims 4-6, 15-17, 23, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bardmesser (U.S. Patent No. 5,986,992) in view of Adelman (U.S. Patent No. 6,644,556 B2) in further view of Miyazaki (U.S. Patent Application No. 2004/0042761).

As to claims 4-6, 15-17, and 23, Bardmesser and Adelmann fail to teach wherein the mass storage device includes a plurality of light emitting-diodes having a plurality of different colors.

However, Miyazaki discloses a recording/reproducing apparatus (Abstract), in which he teaches wherein the display (Fig. 1 element 10) indicates 5-level capacity using five light-emitting diodes, LEDs (paragraph 0026) indicating a ratio of remaining capacity of the full capacity. A remaining capacity can be displayed in more detail by increasing the number of LED. An emitting color of LED may be changed depending on a remaining capacity (paragraph 0032).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Bardmesser and Adelmann to include wherein the mass storage device includes a plurality of LEDs having a plurality of different colors depending on a remaining capacity of the mass storage device instead of LCD. LEDs are less expensive and provide brighter light illumination. LED's bright and different light illumination would ease a user to determine remaining capacity of the mass storage device. A red color LED would inform a user of a very low storage capacity. When working with a large number of storage devices, determining a device with adequate remaining capacity (column 1, lines 13-15 of Bardmesser) by reading from LCD (LCDs have lower light illumination than LEDs and LCDs display small text difficult to read) one would find cumbersome. A bright color LED display allows a quickly glance from a distance permitting a user to be informed about the device's adequate remaining capacity.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Bardmesser and Adelmann by the teaching of Miyazaki to include a plurality of LEDs having a plurality of different colors to indicate remaining capacity of the mass storage device to allow a user to easily determine current capacity of the massive storage device.

As to claims 26, Bardmesser and Adelmann teach a mass storage drive for reading data from and writing data to a storage medium having an overall storage capacity (Fig. 3 element 20 of Bardmesser).

Bardmesser and Adelmann fail to teach wherein the drive comprising:
a capacity indicator operable to display at least one of the following:
a used storage capacity of the storage medium,
a free storage capacity of the storage medium, or
both, the free and the used storage capacity of the storage medium; and
a panel on which the capacity indicator is positioned.

However, Miyazaki teaches the drive comprising:
a capacity indicator (Fig. 2 element 10) operable to display at least one of the following:
a used storage capacity of the storage medium (paragraph 0026, Fig. 2 element 10),
a free storage capacity of the storage medium (paragraph 0026, Fig. 2 element 10), or
both, the free and the used storage capacity of the storage medium (paragraph 0026, Fig. 2 element 10); and
a panel on which the capacity indicator is positioned (Fig. element 10).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Bardmesser and Adelmann to include the drive comprising: a capacity indicator operable to display at least one of the following: a used storage capacity of the storage medium, a free storage capacity of the storage medium, or both, the free and the used storage capacity of the storage medium; and a panel on which the capacity indicator is positioned.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Bardmesser and Adelmann by the teaching of Miyazaki because including the drive comprising: a capacity indicator operable to display at least one of the following: a used storage capacity of the storage medium, a free storage capacity of the storage medium, or both, the free and the used storage capacity of the storage medium; and a panel on which the capacity indicator is positioned would automatically display a remaining capacity of a recording medium to confirm a remaining capacity at once (paragraph 0033 of Miyazaki).

Response to Arguments

Applicant's arguments with respect to claims 1-23, and 24-25 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion


Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Borkowski whose telephone number is 571-272-8626. The examiner can normally be reached on Monday - Friday 8:30AM-5:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on 571-272-4083. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Robert Borkowski
Art Unit 2181
12/20/2005


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